SONY

HD Projection Head

HDIH-1200 HDIH-1200M
HDIH-2000 HDIH-2000M
HDIH-2400 HDIH-2400M

Operating Instructions Page 2

Before operating the unit, please read this manual thoroughly and retain it for future reference.

Installation and preliminary adjustments should be performed by qualified Sony personnel.

Mode d'emploi Page 30

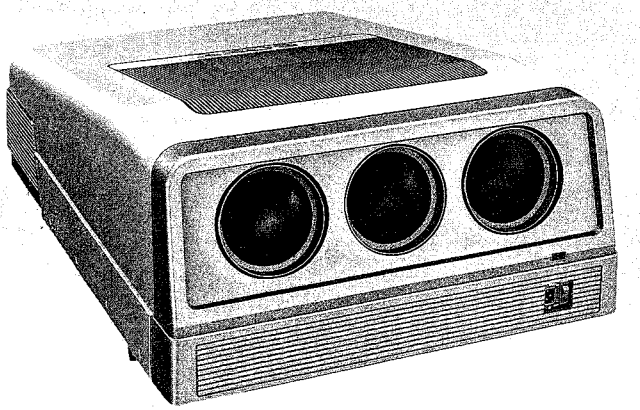
Avant la mise en service de cet appareil, prière de lire attentivement ce mode d'emploi que l'on conservera pour toute référence ultérieure.

L'installation et les réglages préliminaires doivent être réalisés par un personnel de Sony qualifié.

Bedienungsanleitung Seite 56

Vor der Inbetriebnahme lesen Sie diese Anleitung sorgfältig durch und bewahren Sie sie zum späteren Nachschlagen auf.

Installation und Voreinstellungen sind von einem Sony Fachmann auszuführen.



HDVS

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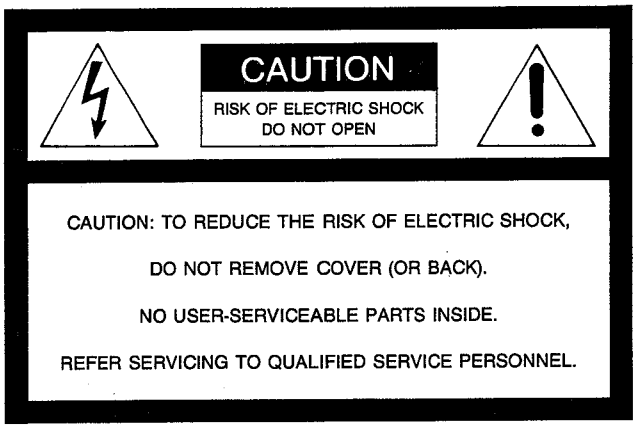
Owner's Record

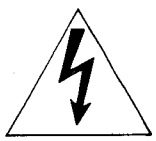
The model and serial numbers are located at side of the unit. Record these numbers in the spaces provided below. Refer to them whenever you call upon your Sony dealer regarding this product.

Model No. _____ **Serial No.** _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

For the Customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow: Earth
Blue : Neutral
Brown : Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow. The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

For the Customers in the USA

Warning — This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Important — To insure that the complete system (including this peripheral) is capable of complying with the FCC requirements, it is recommended that the user make sure that the individual equipment of the complete system has a label with one of the following statements.

"This equipment has been tested with a Class A Computing Device and has been found to comply with Part 15 of FCC Rules."

—or

"This equipment complies with the requirements in Part 15 of FCC Rules for a Class A Computing Device."

—or equivalent.

For the Customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Table of Contents

Precautions 5
Features 6
Location and function of controls 7
Front 7
Rear 8
Remote Commander 10
Attaching the supplied handles 13
Projecting 14
Adjusting the picture 16
Displaying the current control settings and conditions 18
RGB SIZE and SHIFT adjustments 21
Messages on the screen 22
Storing the adjustment data 23
Centering adjustment 24
System connection 26
Specifications 27

This manual covers the HDIH-1200/2000/2400 (for USA and Canada) and the HDIH-1200M/2000M/2400M (for European countries).
The operating procedures of all models are the same.

Precautions

On safety

- Check that the operating voltage of your unit is identical with the voltage of your local power supply.
  If voltage adaptation is required, consult your Sony dealer or qualified personnel.
- Use the supplied AC power cord (mains lead). Do not use an extension cord.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet or set the MAIN POWER switch to OFF if it is not to be used for several days.
- To disconnect the cord, pull it out by the plug. Never pull the cord itself.

On installation

- When the unit is mounted on the ceiling, the Sony projector suspension support PSS-1270 must be used for installation.
- Allow adequate air circulation to prevent internal heat build-up. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
  Be aware that room heat rises to the ceiling; check that temperature near the installation location is not excessive.
- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust or humidity, mechanical vibration or shock.
- To avoid moisture condensation, do not install the unit in a location where the temperature may rise rapidly.
- Do not install the screen in a location where wind from an air conditioner may blow upon it directly.
- To avoid the screen and lens from becoming stained, the projector should be installed in non-smoking area.

On illumination

- To obtain the best picture, the front of the screen should not be exposed directly to illumination or sunlight.
- To avoid the screen being exposed to light every time a door is opened, do not install the screen in a location where it is facing a door entrance.
- Ceiling mounted spot lighting is recommended. Use a cover over fluorescent lamps to avoid lowering contrast ratio.
- Cover any windows that face the screen with opaque draperies.
- It is desirable to install the projector in a room where floor and walls are not of light-reflecting material. If the floor and walls are of reflecting material, it is recommended that the carpet and wall paper be a dark color.
- When the projector is installed on the floor (ceiling), be sure that there is no illumination on the floor (ceiling) that will lower contrast ratio.

On cleaning

- To keep the cabinet looking brand-new, periodically clean it with a soft cloth. Stubborn stains may be removed with a cloth lightly dampened with a mild detergent solution. Never use strong solvents, such as thinner or benzine, or abrasive cleansers, since these will damage the cabinet.
- Avoid touching the lens. To remove dust on the lens, use a blower brush or a soft cleaning brush. To remove fingerprints or smudges, clean with a soft cloth lightly moistened with a mild detergent solution.

On repacking

- Save the original shipping carton and packing material; they will come in handy if you ever have to ship your unit. For maximum protection, repack your unit as it was originally packed at the factory.

Features

High Definition Projector

The Sony High Definition projector conforms with the HDTV standards BTA S-001 and SMPTE 240M.

Bright Image—Light Output 300 Lumen

The 9-inch CRT with impre-cathode, high performance HACC lens, and newly-developed circuitry provide the bright image.

Stable Black Reproduction by LC^2 System

LC^2 (Liquid Coupling and Cooling) system contributes to improved high contrast and allows stable reproduction of blanks.

Fine-detailed Picture Reproduction

The 9-inch magnetic focus CRT minimizes the spot size of an electron beam and reproduces a fine-detailed picture.

Wireless and Wired Remote Control

All adjustments including lens focus can be remotely controlled from both the front and rear of the projector with the supplied Remote Commander. The Commander can also be used as a wired Commander.

On-screen Display

Adjustment instructions, indications such as picture controls and guide and error messages can be displayed on the screen. The current setting of each control and input condition can also be displayed.

High Precision Registration

Analogue registration, corrected wave form, and digital control enable high precision registration with convergence error of less than 0.1%.

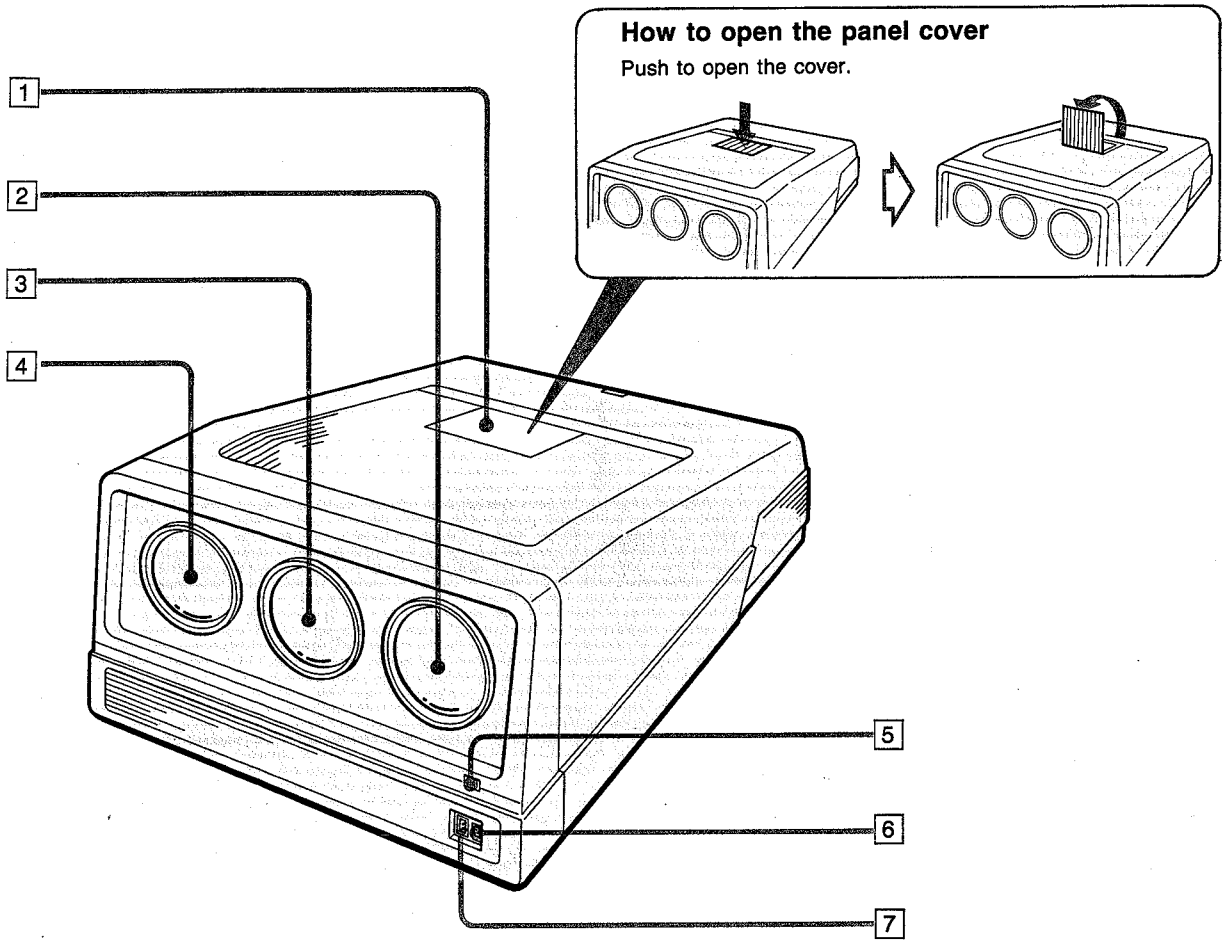
Other Features

- **Four color systems available**
  One of PAL, SECAM, NTSC or $NTSC_{4.43}$* color systems is selected automatically.
- **Installation possibilities**
  The projector is designed to be installed on the floor or ceiling with a flat screen.
- **Illuminated Remote Commander and control panel**
  When the LIGHT button on the Remote Commander or control panel on the projector is pressed, the indications are illuminated for easy operation in dim or dark places.
- **Internal test signal**
  Registration adjustment can be performed easily by projecting the built-in test signals. No external test signal is necessary.
- **Easy adjustment of the lens focus**
  Lens focus can be easily adjusted with the Remote Commander.

*A signal of $NTSC_{4.43}$ system is obtained by playing back NTSC-recorded video tapes with a video tape recorder/player specially designed for use with this system.

Location and Function of Controls

Front



1 **Control panel**
The keys inside the panel cover are the same as the Remote Commander.

2 **Red lens**

3 **Green lens**

4 **Blue lens**

5 **Front remote control detector**

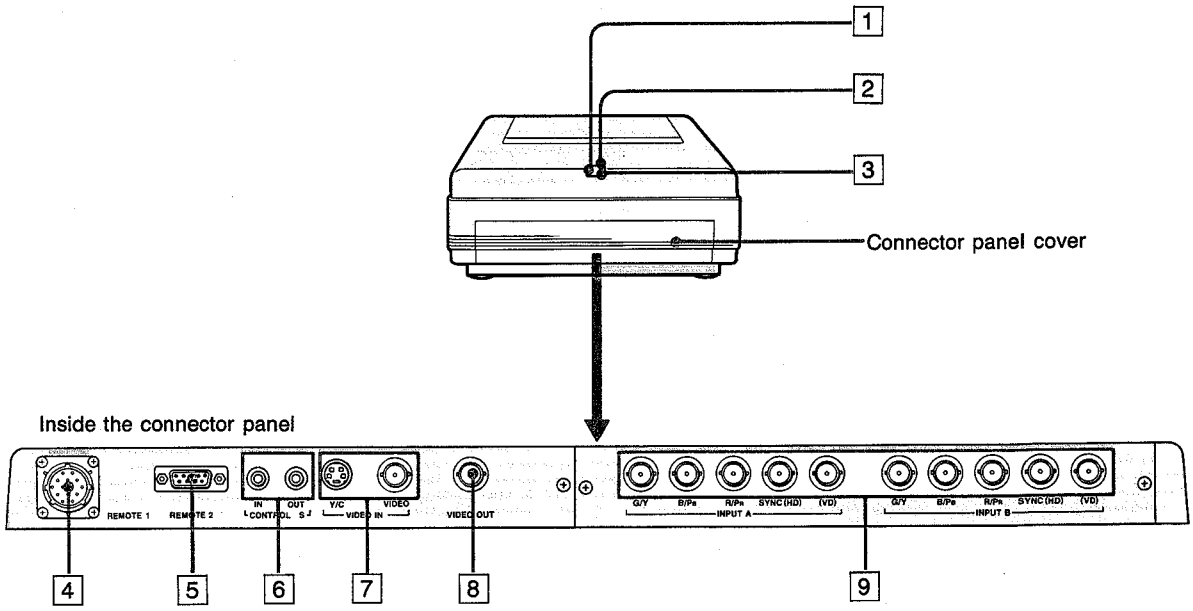
6 **MAIN POWER switch (| On/ ○ Off)**

7 **AC IN socket**
Connect the supplied AC power cord (mains lead).

Location and Function of Controls

Rear

To open the connector panel cover, see "How to open the connector panel cover" on page 9.



1 Rear remote control detector

2 POWER indicator
Green indicator is on when the power is turned on.

3 STANDBY indicator
When the MAIN POWER is on, the red light indicating standby will be on. When the red light is on, the projector can be controlled with the Remote Commander.
Note
When the MAIN POWER is turned off, there will be a slight delay before the red light goes off.

4 REMOTE 1 connector (14-pin)
For future use.

5 REMOTE 2 connector (9-pin)
For future use.

6 CONTROL S IN/OUT connectors
Connect to the CONTROL S connectors of other Sony equipment. It is then possible to control the whole system with a single Remote Commander.
CONTROL S IN: Connect to the CONTROL S OUT of the Remote Commander to be used as a wired Commander.

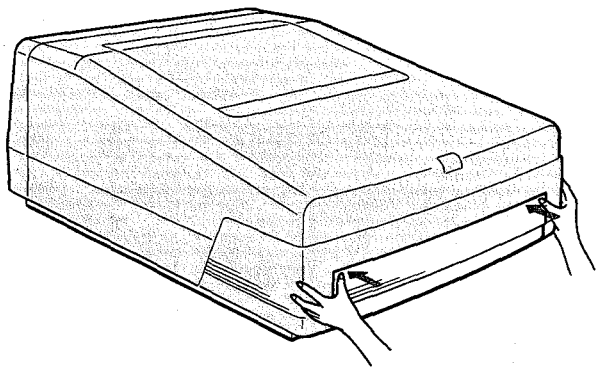
7 VIDEO IN connectors
Y/C (4-pin): Connect to the Y/C output of a VCR.
VIDEO (BNC type): Connect to the video output of a video equipment.
Note
The VIDEO connector is disconnected automatically when a cable is connected to the Y/C connector.

8 VIDEO OUT connector (BNC type)
Loop-through output of the VIDEO connector. Connect to the video input of a VCR or another monitor.
Note
The signal input from Y/C connector is not output from this connector.

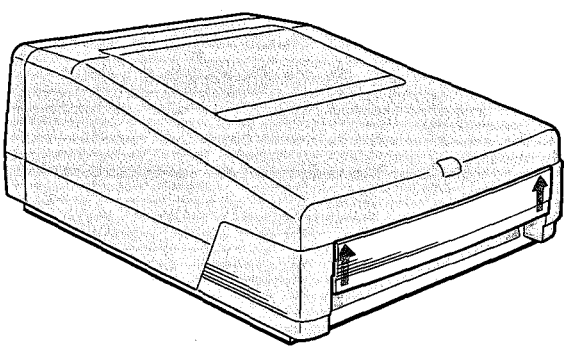
9 INPUT A/B connectors (BNC type)
G/Y, B/PB, R/PR, SYNC (HD), (VD):
Connect to the G/Y, B/PB, R/PR, SYNC (HD), (VD) outputs of high definition video products (BTA S-001 or SMPTE 240M standard) such as HDL-2000 videodisc player.

How to open the connector panel cover

1 **Push to open the cover.**

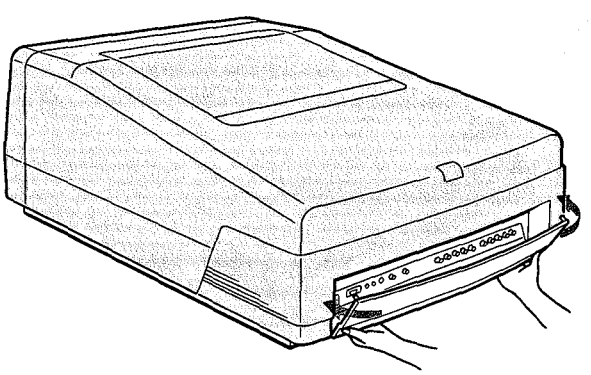


2 ***Slide the cover upward as far as it can go.***



■ *How to detach the panel cover*

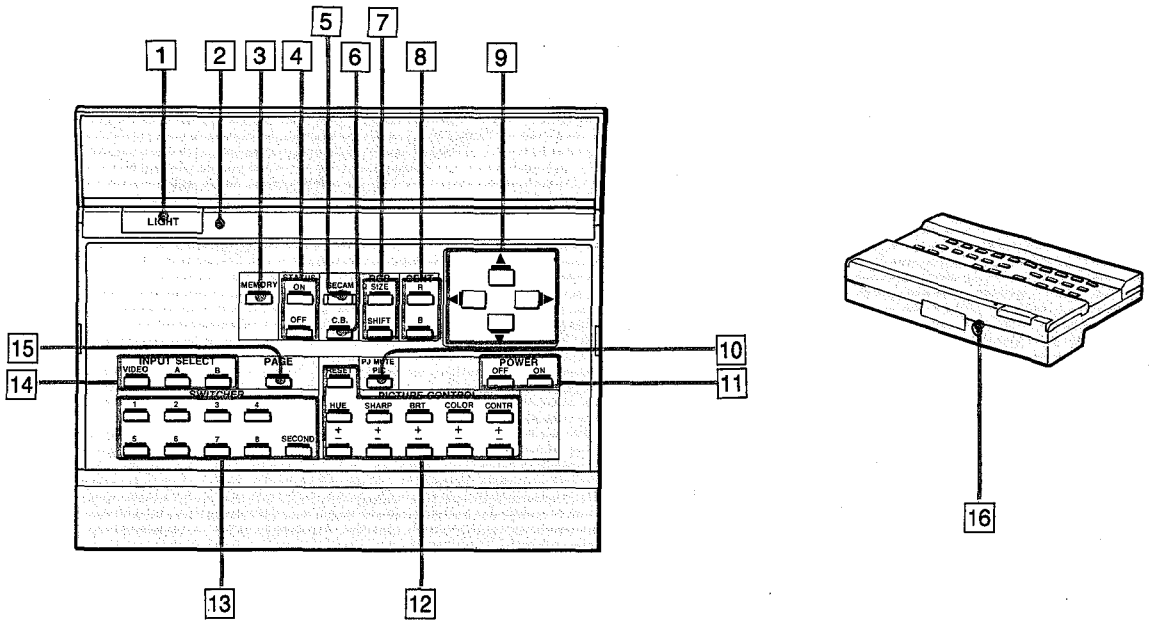
Bend the cover until it is detached.



Location and Function of Controls

Remote Commander RM-1200

The same keys are on the control panel of the projector.



1 LIGHT button
Press to illuminate the indicators on the Commander. The light will go off in about 10 seconds after any operation.

2 Indicator
Lights up when any of the buttons on the Commander is pressed. If the indicator does not light, the battery must be replaced.

3 MEMORY key
Press to store the adjusted data.

4 STATUS ON/OFF key
Press OFF key to cut the on-screen display. However, PAGE will be displayed even when in OFF mode. "OFF" indication will be displayed if a key is pressed when in OFF mode. Press ON key to restore the on-screen display.

5 SECAM key
Press when the color of a picture from SECAM color source is incorrect. Press again to switch over to other standard system sources, NTSC or PAL.

6 C.B. (Clear Blue) key
Press to make the blue color clear in the picture input from INPUT A/B connectors. Press again to restore the normal condition.

7 RGB SIZE/SHIFT keys
Press to adjust the picture input from INPUT A/B connectors.
SIZE: Press to enter the size adjustment mode. The size adjustment of the picture is performed using the four arrow keys.
◄ - to reduce horizontal size
► - to expand horizontal size
▲ - to expand vertical size
▼ - to reduce vertical size
SHIFT: Press to enter the shift adjustment mode. The shift adjustment of the picture is performed using the four arrow keys. The picture shifts according to the direction of the arrow.

8 CENT R/B keys
Press for centering adjustments of the red or blue.
R: Press to enter the red centering adjustment mode.
B: Press to enter the blue centering adjustment mode.
The centering adjustments are performed using the four arrow keys.

9 Arrow keys
Used for various adjustment functions.

10 PJ MUTE PIC key
Press to darken the screen. To restore the preveious brightness level, press PIC again or CONTR+.

[11] **POWER ON/OFF keys**
Press to turn on and off the projector.

[12] **PICTURE CONTROL keys**
Press to adjust picture condition: hue, sharpness, brightness, color, and contrast. Press RESET key to restore the factory preset levels.

[13] **SWITCHER keys**
For future use.
Note
If you have pressed a number key by mistake while projecting a picture, the input channel will be switched and the input signal will be cut off.
To resotre the picture, press the INPUT SELECT key (VIDEO, A, or B) of the input signal to be projected.

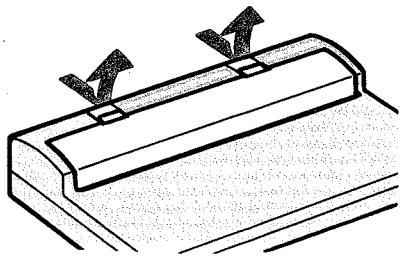
[14] **INPUT SELECT keys**
Press to select the signal input.
VIDEO: to select the signal input from VIDEO IN connectors
A: to select the signal input from INPUT A connectors
B: to select the signal input from INPUT B connectors

[15] **PAGE key**
Press to display and switch the following five on-screen displays. (Adjustment can be done on page 1, 2, 3 and 4 as well.)
PAGE 1: Displays STATUS ON/OFF, PIC MUTE ON/OFF, CLEAR BLUE ON/OFF, and SECAM ON/OFF.
PAGE 2: Displays the picture conditions: contrast, color, brightness, sharpness, and hue levels.
PAGE 3: Displays the MEMORY numbers.
PAGE 4: Displays the color temperature, input signal, color selection, sync source selections.
PAGE 5: Displays the input signal informations: fH, fV, H/C-sync, V-sync, Sync on Green, and input signal.

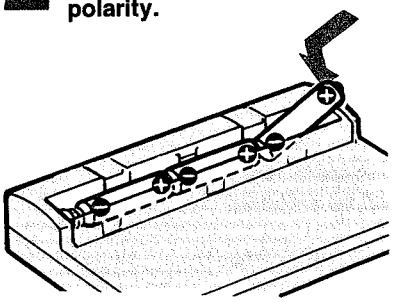
[16] **CONTROL S OUT connector**
Connect the supplied cable to this connector and to CONTROL S IN connector of the projector for wired Commander application.

Battery installation

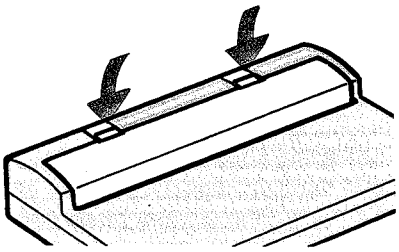
1 Push to open the lid.



2 Install three size AA (R6) batteries with the correct polarity.

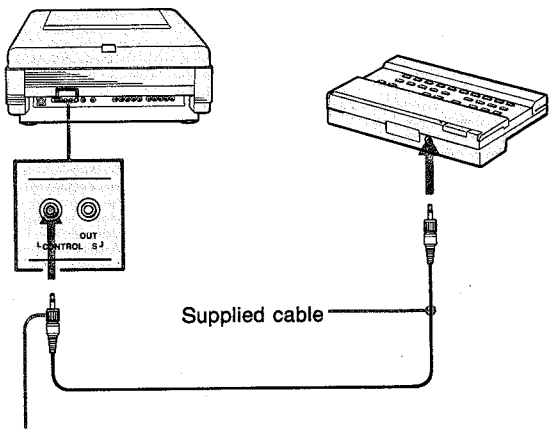


3 Replace the lid.



- If the projector does not operate properly, the batteries might be worn out. Replace all three of them with new batteries.
- The life of the batteries depends on frequency of usage how often you use the LIGHT button. If they wear out quickly, replace them with new alkaline batteries.
- To avoid damage from possible battery leakage, remove the batteries when the Commander will not be used for a long time.
- Be sure that there are no obstructions between the Commander and the unit.
- Operable range is limited.
  The shorter the distance between the Commander and the projector, the wider the angle within which the Commander can control the projector.

■*To connect the Remote Commander to the projector*



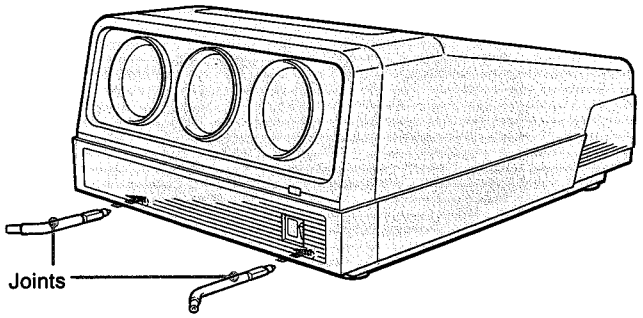
Turn the screw to the right and fix the plug on the CONTROL S IN connector of the projector.

- When the connection is made, the remote control detectors of the projector will not function.
- For wireless operation, make sure to disconnect both plugs after using the wired Commander.

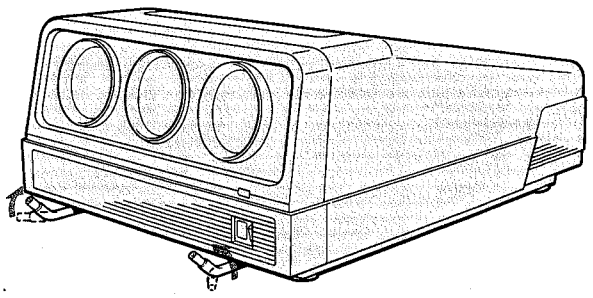
Attaching the Supplied Handles

For carrying the projector, attach the supplied handles to the front and rear of the projector.

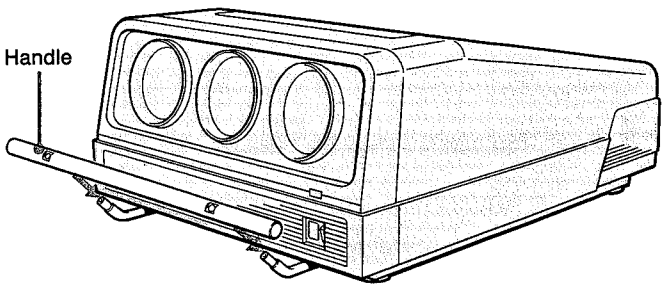
1 **Insert the joints with the curved portion toward you to the square holes of the projector as far as they can go.**



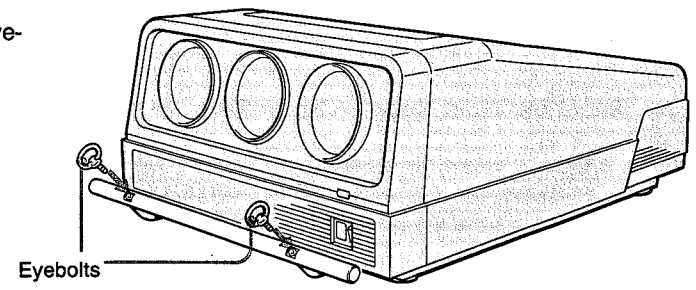
2 **After inserting the joints, turn them upward by 90 degrees. Then, try to pull the joints to confirm that they are fixed and cannot be pulled out.**



3 **Attach the handle to the joints.**



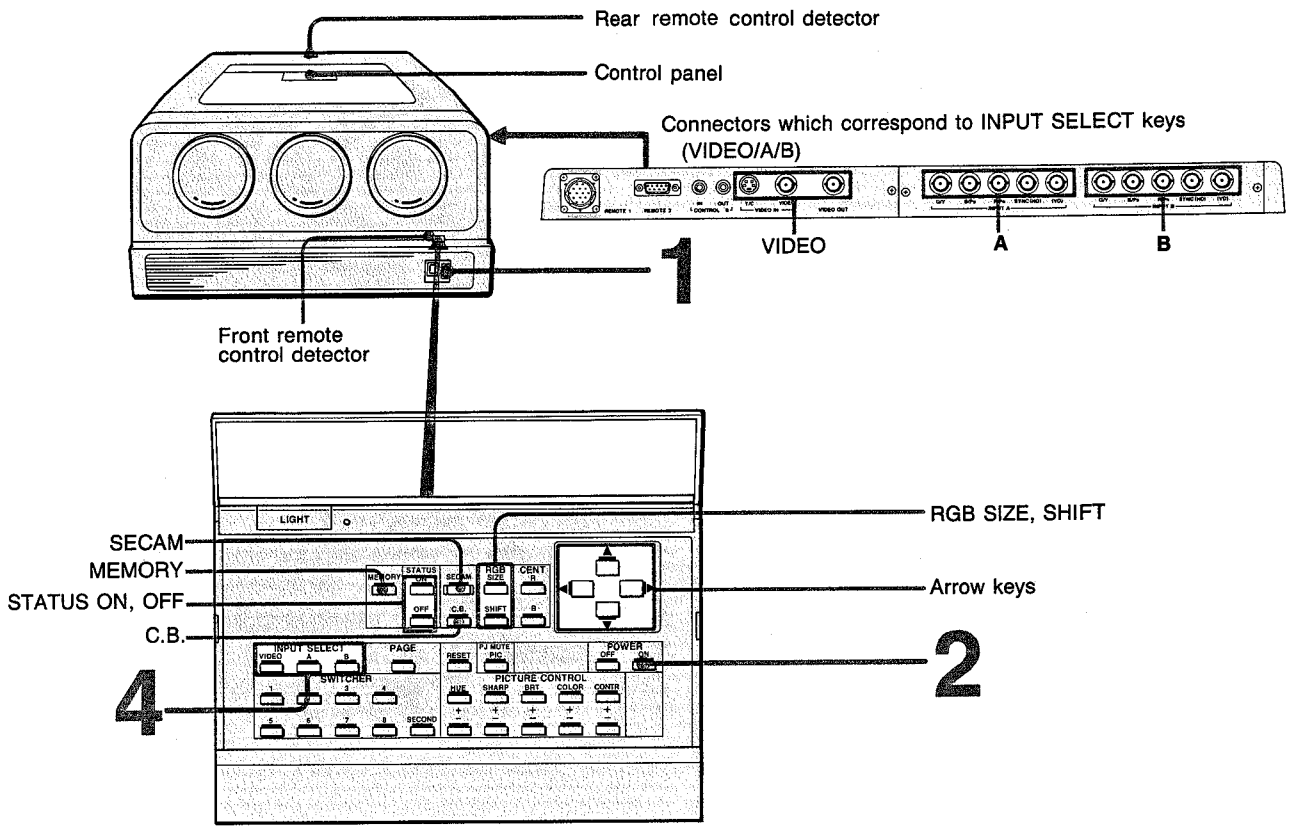
4 **Fasten with the eyebolts.**
The handle may jolt slightly even though the eyebolts are fastened tightly.



5 **Repeat the above steps for attaching the handle at the rear of the projector.**

Projecting

The keys on the control panel of the projector are the same as those found on the Remote Commander.



1 **Turn the MAIN POWER of the projector on (|).**

2 **Turn the power on by pressing the POWER ON key of the Remote Commander or the control panel of the projector.**

3 **Turn on the connected equipment.**

4 **Select the input signal to be projected by pressing INPUT SELECT key (VIDEO, A or B).**

VIDEO: to select the signal input from VIDEO IN connectors
A: to select the signal input from INPUT A connectors
B: to select the signal input from INPUT B connectors

5 **Adjust the picture.**

To cut the on-screen display

Press STATUS OFF. However, PAGE will be displayed even when in OFF mode. "OFF" indication will be displayed if a key is pressed when in OFF mode. ("OFF" will be displayed in green if the key functions, and in yellow if the key does not function.) To restore the on-screen display, press STATUS ON.

To darken the screen (PIC MUTE)

Press PJ MUTE PIC key. To restore the previous brightness level, press PJ MUTE PIC key again or CONTR+ key.

Notes on projecting a signal from INPUT A/B connectors

- If necessary, adjust the size and shift of the picture using the RGB SIZE/SHIFT and arrow keys. (See page 21).
- To make the blue color clear, press C.B. (CLEAR BLUE ON). Press again to restore the normal condition (CLEAR BLUE OFF).

If the color of the picture is incorrect

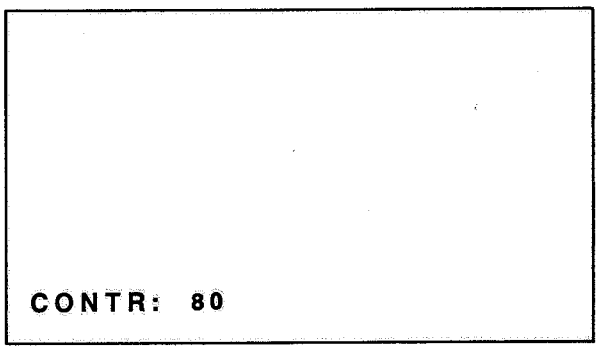
When the input signal is from INPUT A/B connectors
Display PAGE 4 by pressing PAGE key, then check that the INPUT SIGNAL setting (GBR/YP_BP_R) is correct.

When the input color source is SECAM
Press SECAM key (SECAM ON). Press again to switch over to other standard system sources, NTSC or PAL (SECAM OFF).

If you wish to store the SECAM ON/OFF or C.B. ON/OFF setting, store the data (see page 23).

Adjusting the Picture

Use the PICTURE CONTROL keys on the Remote Commander.
The adjustment levels are digitally displayed on the screen having a range of MIN, 1, 2, ..., 98, 99, MAX.



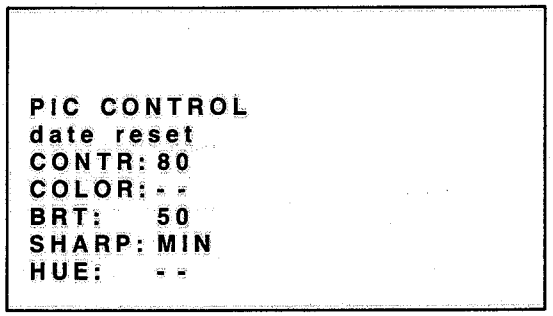
CONTR +/− keys: +: to increase picture contrast
−: to decrease picture contrast
COLOR +/− keys: +: to make color intensity vivid
−: to make color intensity pale
BRT +/− keys: +: to make the picture brighter
−: to make the picture darker
SHARP +/− keys: +: to make the picture sharper
−: to make the picture softer
HUE +/− keys: +: to make skin tones greenish
−: to make skin tones purplish

- COLOR and HUE controls do not function on the input signal from INPUT A/B connectors.
- HUE control does not function with PAL or SECAM color source.

To restore the factory preset levels

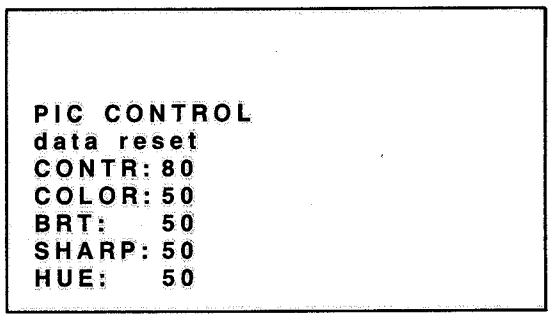
Press RESET key. The factory preset levels will be displayed on the screen. The following are the factory preset levels of each input signal.

■*Input signal from INPUT A/B*

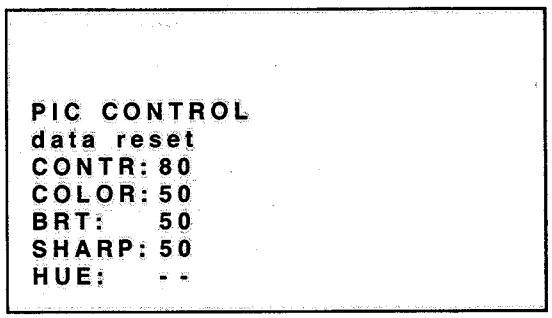


"– –" indicates that the control does not function on the input signal.

■*NTSC (VIDEO) input signal*

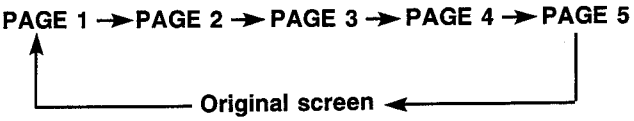


■*PAL/SECAM (VIDEO) input signal*



Displaying the Current Control Settings and Conditions

Press PAGE key for displaying the following four on-screen displays. Adjustment can also be done on PAGE 1, 2, 3 and 4. The displays will switch as illustrated on the right every time PAGE key is pressed.



The displays in these illustrations are for INPUT A/B. When in VIDEO mode, the adjustable items are slightly different from the displays in these illustrations.

PAGE 1

```
PAGE 1                    INPUT-A
  USER PRESET
STATUS:          ON
PIC MUTE:        OFF
CLEAR BLUE:      OFF
SECAM;           - - -

                  NEXT: [PAGE]
```

The STATUS ON/OFF, PIC MUTE ON/OFF, CLEAR BLUE (C.B.) ON/OFF, and SECAM ON/OFF settings are displayed. "– – –" indicates that the control does not function with the current input signal.
To change the settings, adjust with the appropriate key.

Note
CLEAR BLUE control does not function when in VIDEO mode.

PAGE 2

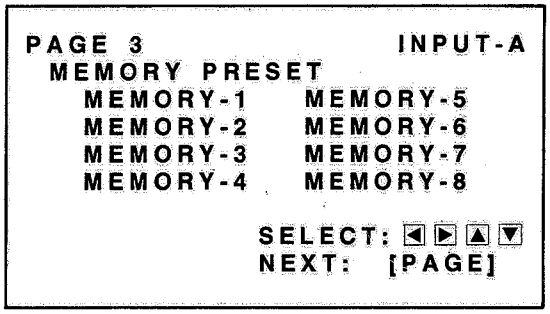
```
PAGE 2                    INPUT-A
  USER CONTROL
CONTR: 80
COLOR: - -
BRT:   50
SHARP: MIN
HUE:   - -

                  NEXT: [PAGE]
```

The picture conditions; contrast, color, brightness, sharpness, and hue levels are displayed.
"– –" indicates that the control does not function with current input.
To change the levels, adjust with PICTURE CONTROL keys.

Notes
- COLOR and HUE controls function with NTSC color source.
- HUE control does not function with PAL or SECAM color source.

PAGE 3

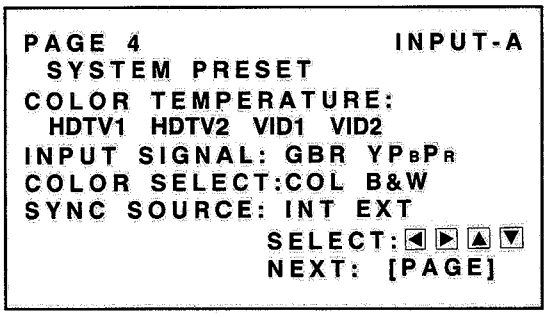


The MEMORY numbers are displayed.
The number being selected blinks in green.
To select the MEMORY number, press ◀, ▶, ▲ or ▼.

When the aspect ratio of the picture is 16:9, select MEMORY 1. When the aspect ratio of the picture is 4:3, select MEMORY 8. The standard registration data are preset in these two positions.
MEMORY 2-7 are for dealer use to store their own registration data.

The aspect ratio of the picture (16:9 or 4:3) is factory preset for each MEMORY number:
MEMORY 1 — 6: aspect ratio 16:9 (For INPUT A/B)
MEMORY 7 — 8: aspect ratio 4:3 (For VIDEO)

PAGE 4



The following settings are displayed:
The number being selected blinks in green.

COLOR TEMPERATURE:
The color temperature is set to HDTV 1, HDTV 2, VID 1 or VID 2.
HDTV 1: 6500K for aspect ratio 16:9
HDTV 2: 9300K for aspect ratio 16:9
VID 1: 6500K for aspect ratio 4:3
VID 2: 9300K for aspect ratio 4:3
When changing the setting, select the item which the aspect ratio is appropriate for the picture to be projected.

INPUT SIGNAL: The input signal is GBR or YPBPR.

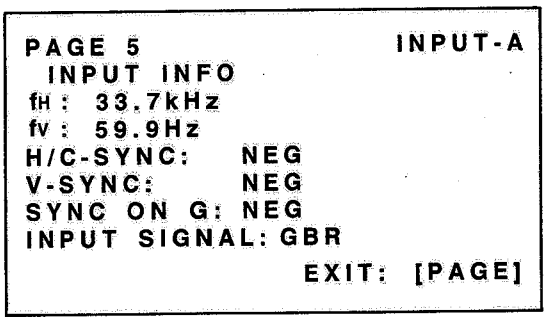
COLOR SELECT: The color select setting is COL (color) or B&W (black & white)

SYNC SOURCE: The sync source is INT (internal) or EXT (external).

Notes
- "INPUT SIGNAL", "COLOR SELECT" and "SYNC SOURCE" are not displayed when the input signal is from VIDEO IN.
- "SYNC SOURCE" is displayed only when both internal and external sync signals are input.

To change the setting, adjust by pressing ◀, ▶, ▲ or ▼ keys. If you wish to keep the setting on PAGE 3 and 4, store the data (see page 23).

PAGE 5



The signal input conditions are displayed.

fH: The horizontal frequency of the input signal
fV: The vertical frequency of the input signal
H/C-SYNC: The polarity of the H/C-SYNC
V-SYNC: The polarity of the V-SYNC
SYNC ON G: The polarity of the SYNC on the Green

POS: positive
NEG: negative
– – –: not input

The sync signal being used is indicated in green, and the one not being used is indicated in white.

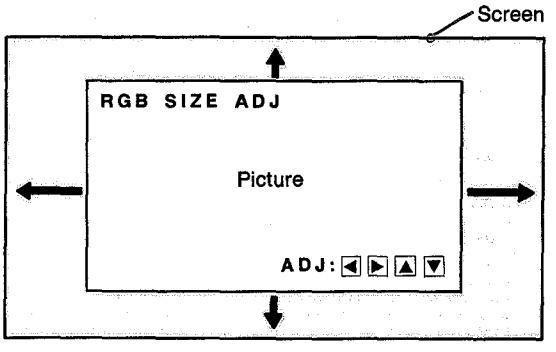
INPUT SIGNAL: The current input signal.
GBR: GBR signal from INPUT A/B
YP_BP_R: YP_BP_R signal from INPUT A/B
NTSC: NTSC signal from VIDEO IN
PAL: PAL signal from VIDEO IN
SECAM: SECAM signal from VIDEO IN
B&W: black and white signal from VIDEO IN
Y/C: Y/C signal from VIDEO IN

RGB SIZE and SHIFT Adjustments (For INPUT A/B only)

If necessary, adjust the size and shift of the picture using the RGB SIZE/SHIFT and arrow keys.
This adjustment functions only with input signal from INPUT A or B connectors.

RGB SIZE adjustment

If size of the picture does not fit the screen, adjust RGB SIZE.



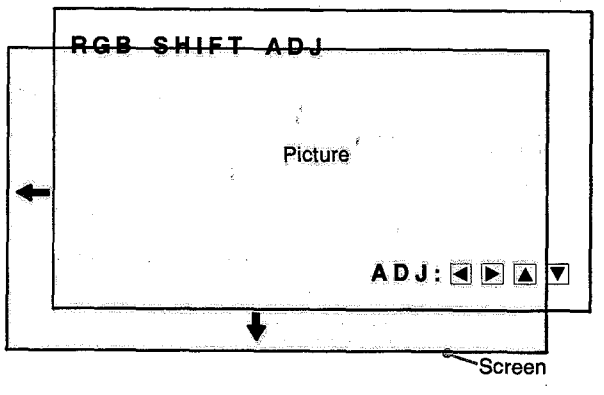
1 **Press RGB SIZE key.**

2 **Adjust by pressing arrow keys so that the picture fits the screen.**

- ◀ to reduce horizontal size
- ▶ to expand horizontal size
- ▲ to expand vertical size
- ▼ to reduce vertical size

RGB SHIFT adjustment

If the picture needs to be shifted to fit the screen, adjust RGB SHIFT.



1 **Press RGB SHIFT key.**

2 **Adjust by pressing arrow keys so that the picture fits the screen.**
The picture shifts according to the direction of the arrow.

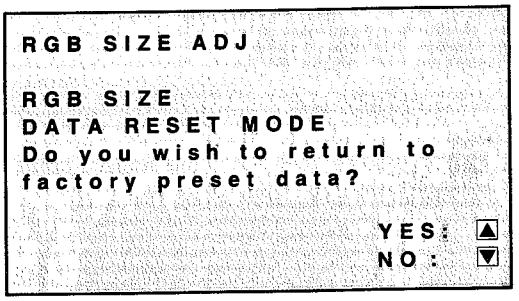
If you wish to keep the current adjustment setting, store the data (see page 23).

After the RGB SIZE/SHIFT adjustment, press the selected INPUT SELECT key (A or B) to cut the on-screen display.

Resetting RGB SIZE/SHIFT to factory preset condition

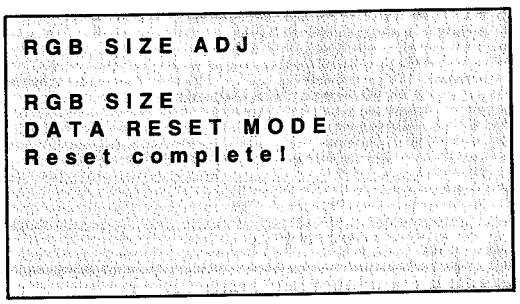
1 **Press RGB SIZE or SHIFT key.**

2 **Press ◄ and ► keys simultaneously.**
The following on-screen display appears on the screen.



3 **To restore the factory preset condition, press ▲ key.**
The following on-screen display appears to confirm that resetting was completed.

To keep the current setting instead of resetting, press ▼ key.



Messages on the Screen

The meaning of the color

Four colors are used in the letters of on-screen display.

Color	Meaning
Green	Function and condition, item being selected on PAGE display
Cyan	Operation guide and messages
Yellow	Caution and error messages
White	Item being adjusted, item not being selected on PAGE display

Error message

When you perform an error in operation, the following messages will be displayed.

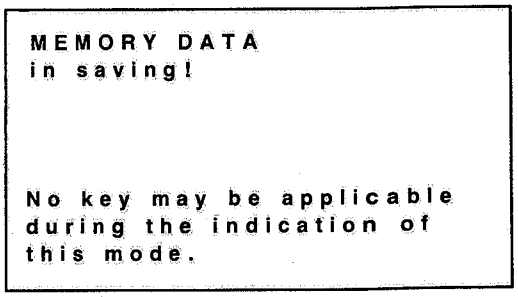
Messages	Meaning
Not applicable!	The control does not function with the current input.
PIC MUTE	PIC MUTE is set to ON. If you want to adjust the picture controls, press PJ MUTE PIC key to cancel the PIC MUTE mode.
Overflow!	RGB SIZE/SHIFT and CENT R/B adjustment range limit has been reached.
NO INPUT	No signal is input in the selected input mode.
OFF	STATUS is set to OFF to cut the on-screen display. To restore the on-screen display, press STATUS ON.

Storing the Adjustment Data

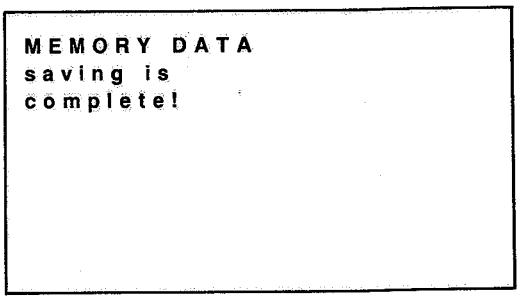
If you wish to save the picture adjustment changes, you must store them in memory.
The following conditions can be stored:

SECAM ON/OFF setting
CLEAR BLUE (C.B.) ON/OFF setting
The adjustment data of RGB SIZE
The adjustment data of RGB SHIFT
The setting data of PAGE 3; MEMORY numbers
The setting data of PAGE 4
- •COLOR TEMPERATURE (HDTV 1/HDTV 2/ VID 1/VID 2)
- •INPUT SIGNAL (GBR/YP_BP_R)
- •COLOR SELECT (COL/B&W)
- •SYNC SOURCE (INT/EXT)

1 **After the adjustment, press MEMORY key.**
The following on-screen display appears to indicate that storing has begun. While the display is on, no other keys will function.

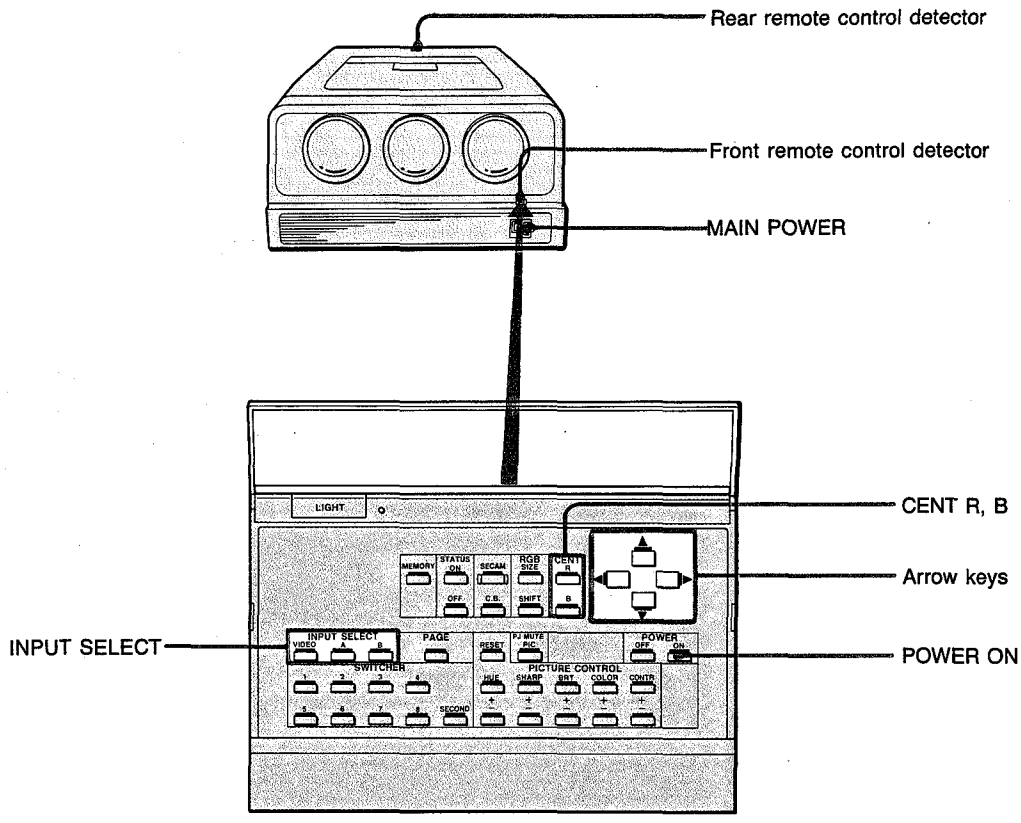


2 The following on-screen display appears to confirm that storing has been completed.



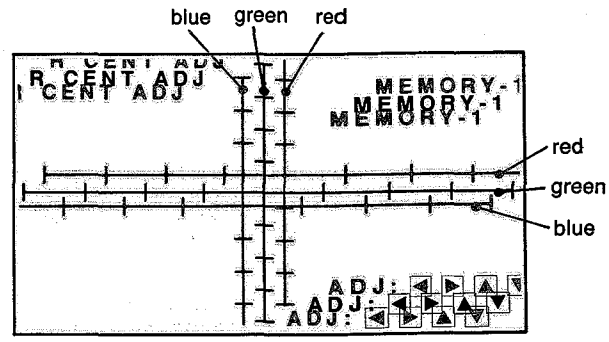
Centering Adjustment

The three colors red, green and blue must converge for proper projection. If they do not converge, centering adjustment is necessary.

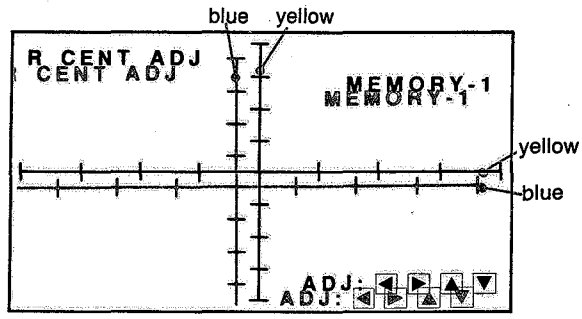


1 **Turn the MAIN POWER switch of the projector on (|) and press POWER ON key of the Remote Commander.**

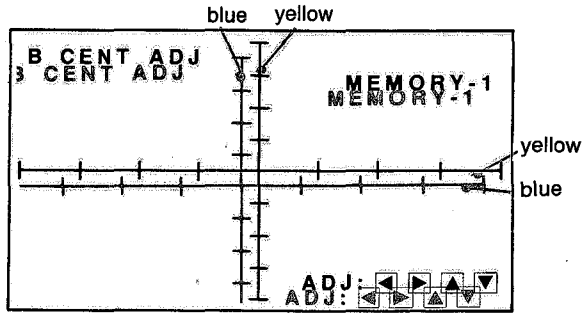
2 **Press CENT R key.**
The built-in cross hair test pattern will be displayed and the red line will be operable.



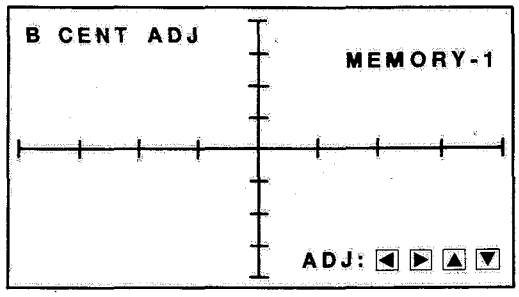
3 **Press arrow keys to move the red line so that the red and green lines converge.**
The red line will move according to the direction of the arrow.



4 **Press CENT B key**
The built-in cross hair test pattern will be displayed and the blue line will be operable.



5 **Press arrow keys to move the blue line so that the blue, green and red lines converge.**
When all three color lines converge, the test pattern will be seen as white.

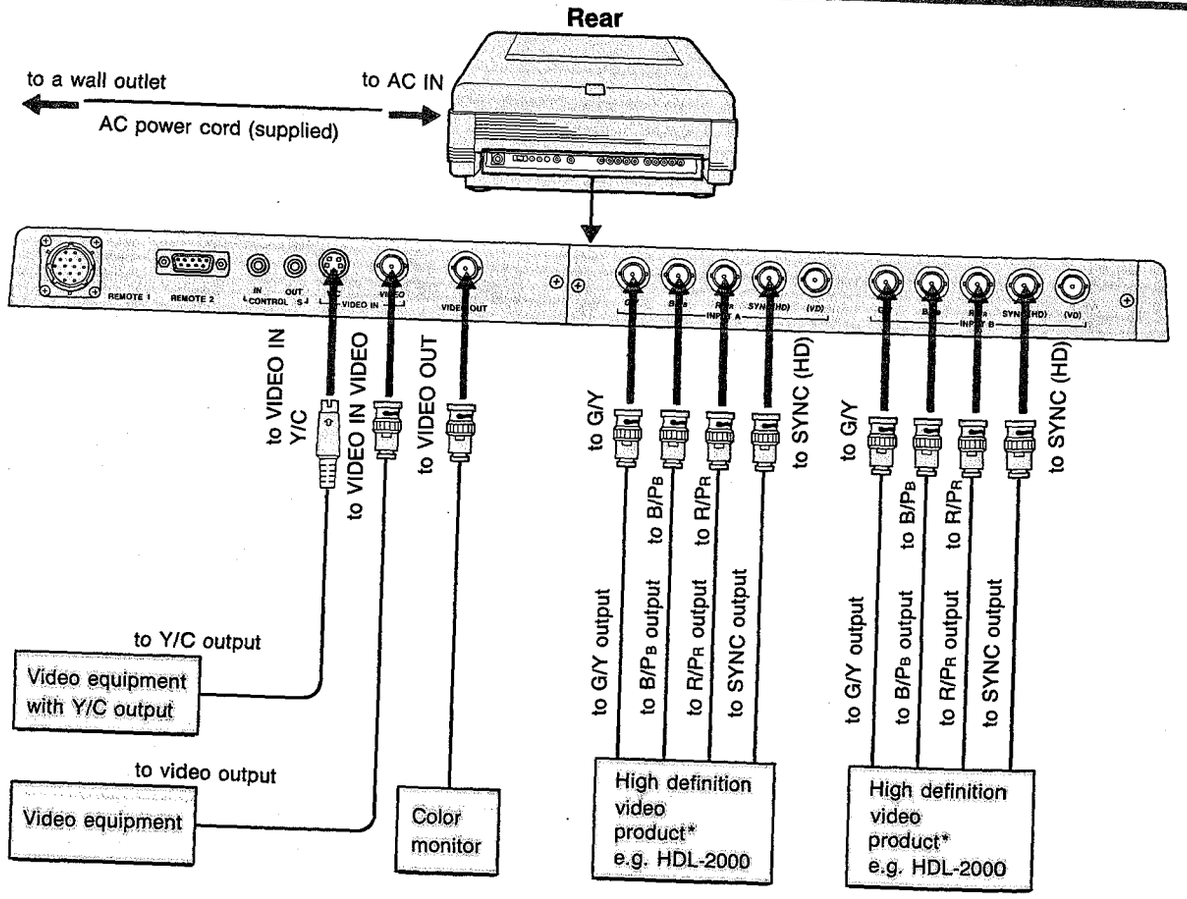


6 **Press the selected INPUT SELECT key** (VIDEO, A or B) **to exit the test pattern mode.**

System Connection

Notes on connection

- First make sure that the power to each piece of equipment is turned off.
- Use connecting cables suitable for the equipment to be connected.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.
- To disconnect the cable, pull it out by grasping the plug. Never pull the cable itself.
- Read the instruction manual of the equipment to be connected.

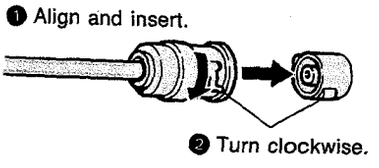


*BTA S-001 or SMPTE 240M standard equipment

Note

The VIDEO connector is disconnected automatically when a cable is connected to the Y/C connector.

BNC connectors



Specifications

Optical

Projection system 3 picture tubes, 3 lenses, Horizontal in-line system

Picture tube 9-inch liquid cooled high brightness tube
LC^2 (Liquid Coupling and Cooling) system

Projection lens High performance HACC lens
F 1.24/172mm
(HDIH-1200/1200M)
F 1.25/174mm
(HDIH-2000/2000M)
F 1.25/177mm
(HDIH-2400/2400M)

Projected picture size

HDIH-1200/1200M
100—130 inches measured diagonally
Factory-adjusted to 120 inches measured diagonally

HDIH-2000/2000M
150—200 inches measured diagonally
Factory-adjusted to 200 inches measured diagonally

HDIH-2400/2400M
240 inches measured diagonally

General

Light output 300 lm (white peak)
100 lm (all white)

Resolution (HDTV) 1000 TV lines (at screen center)
(VIDEO) 700 TV lines (at screen center)

Horizontal frequency 15kHz—35kHz

Vertical frequency 50Hz—120Hz

Color system PAL, SECAM, NTSC and $NTSC_{4.43}$ system, switched automatically

Test signal Test pattern generator is incorporated.

Inputs

INPUT A/B: BNC connectors, 75 ohms terminated

G/Y, B/P_B, R/P_R

G: Composite, 1.0Vp-p ±2dB or non-composite, 0.7Vp-p ±2dB, positive
Sync signal is ±0.3Vp-p tri-level bipolar sync or 0.3Vp-p sync negative.

B, R: Non-composite, 0.7Vp-p ±2dB, positive

Y: Composite, 1.0Vp-p ±2dB or non-composite, 0.7Vp-p ±2dB
Sync signal is ±0.3Vp-p tri-level bipolar sync.

P_B, P_R: ±0.35Vp-p, sync signal is ±0.3Vp-p tri-level bipolar sync.

SYNC(HD): Composite sync or horizontal sync is ±0.3Vp-p tri-level bipolar sync or 0.2-4Vp-p sync, positive/negative

(VD): Vertical sync is 0.2-4Vp-p sync, positive/negative

VIDEO IN

Y/C: 4-pin mini DIN connector
Y(luminance) signal:
1 Vp-p ±2 dB, sync negative, 75 ohms terminated
C (chrominance) signal:
burst 0.286 Vp-p ±2 dB, 75 ohms terminated (NTSC)
0,3 Vp-p ±2 dB, 75 ohms terminated (PAL)

VIDEO: BNC connector
Composite video input, 1 Vp-p, ±2 dB, sync negative, 75 ohms terminated

REMOTE 1 connector:
14-pin connector

REMOTE 2 connector:
9-pin connector

CONTROL S IN:
minijack 5Vp-p

Specifications

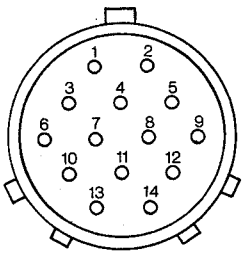
Outputs	**VIDEO OUT:** BNC connector Composite video output, 1Vp-p ±2 dB, impedance 75 ohms, Outputs video signal from the VIDEO IN connector **CONTROL S OUT:** minijack, 5 Vp-p
Power requirements	HDIH-1200/2000/2400: 120 V AC, 50/60 Hz HDIH-1200M/2000M/2400M: 220—240 V AC, 50/60 Hz
Power consumption	120V: 7.2A 220—240V: 4A
Dimensions	Approx. 743 × 402 × 998mm (w/h/d) (29 3/8 × 15 7/8 × 39 3/8 inches)
Weight	Approx. 99 kg (218 lb 4 oz)
Accessories supplied	Remote Commander RM-1200 (1) with 3 size AA(R6) batteries Remote Commander cable (1) AC power cord (1) Handle kit (1 set)

Design and specifications are subject to change without notice.

Signal assignment

REMOTE 1 connector (14-pin)

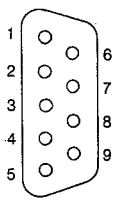
Pin No.	Signal
1	GND
2	HD/Composite Sync
3	SIRCS
4	NC
5	GND (SIRCS)
6	B/C
7	GND (B/C)
8	GND (G/Y)
9	G/Y
10	CONT (RGB/Video)
11	R/Composite Video
12	CONT (Composite Video/YC)
13	—
14	VD



REMOTE 2 connector (D-sub, 9-pin)

Pin No.	Signal
1	Frame Ground
2	$\overline{\text{Transit A}}$
3	Receive B
4	Receive Common
5	Spare
6	Transmit Common
7	Transmit B
8	$\overline{\text{Receive A}}$
9	Frame Ground

RS-422 format



Y/C connector (4-pin mini DIN)